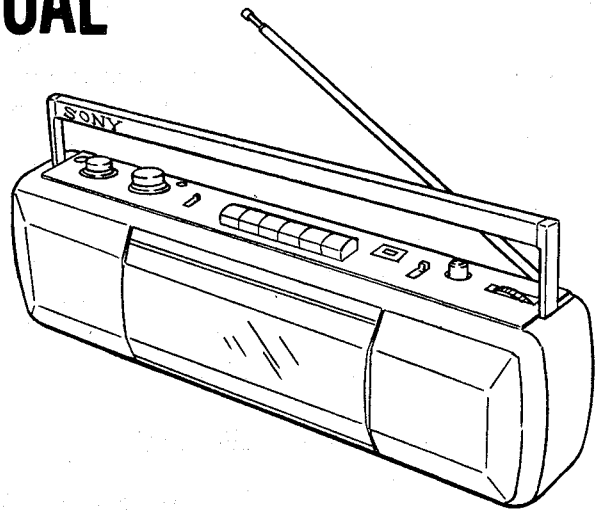
CFS-210L

SERVICE MANUAL

AEP Model
UK Model



SPECIFICATIONS

Frequency range

	FM	MW	LW	SW
Europe, United Kingdom	87.6—107MHz	530—1605kHz	150—285kHz	5.95—18MHz

Antennas: FM/SW: Telescopic antenna
MW/LW: Built-in ferrite bar antenna

Recording system: 4-track 2-channel stereo

Frequency response: 80—8,000Hz

Speakers: Full-range: 10cm (4 inches) dia. × 2

Power output: Peak music power output: 12W (6W + 6W)
Maximum power output: 5W (2.5W + 2.5W)

Outputs: Headphones jack (stereo minijack) for 8—300ohm impedance headphones

Power requirements: 9V DC, six R20P (size D) batteries

AEP model	220V AC, 50Hz
UK model	240V AC, 50Hz

Power consumption

AEP model	12W
UK model	18W

Battery life

Batteries	FM continuous recording
Sony SUM-1 (NS)	17 hours
Sony AM-1 (N) alkaline	30 hours

Dimensions: Approx. 420 × 143.5 × 130mm (w/h/d)
(16⅝ × 5¾ × 5¼ inches)
incl. projecting parts and controls

Weight: Approx. 2.8kg (6 lb 3 oz) incl. batteries

Model Name Using Similar Mechanism	**CFS-240L**
Tape Transport Mechanism Type	**MF-210-75D**

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

FM/MW/LW/SW STEREO CASSETTE-CORDER

SONY®

MICROFILM

TC

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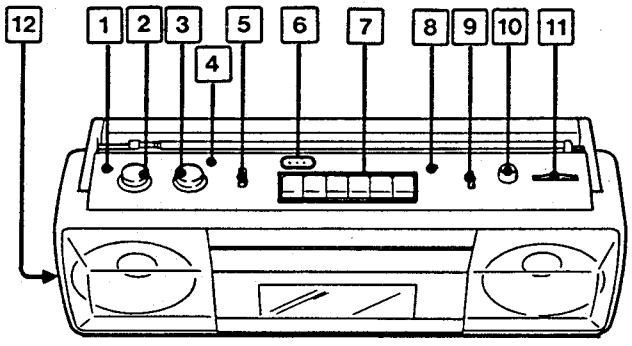
SERVICING NOTE

●Repairing printed resistor

Cut both sides of the resistor and solder the carbon resistor having same value in place of printed one of the conductor side.

1/6W carbon resistor is supplied for the replacing part of the printed resistor.

PARTS IDENTIFICATONS



1 **PHONES (headphones) jack**

2 **VOLUME control**

3 **TONE control**

4 **OPR/BATT (operation/battery check) indicator**
When it glows faintly during battery operation, replace all the batteries with new ones.

5 **FUNCTION (RADIO/TAPE) selector**

6 **MIC (built-in)**

7 **Tape opreration buttons**

⏸ PAUSE	◀ PLAY (playback)
◀◀ FF (fast forward)/CUE	● REC (record)
▶▶ REW (rewind)/REVIEW	■⏏ STOP/EJECT

8 **MONO/STEREO selector**
During FM reception, normally set to STEREO.
When noise makes it hard to hear the broadcast, set to MONO.

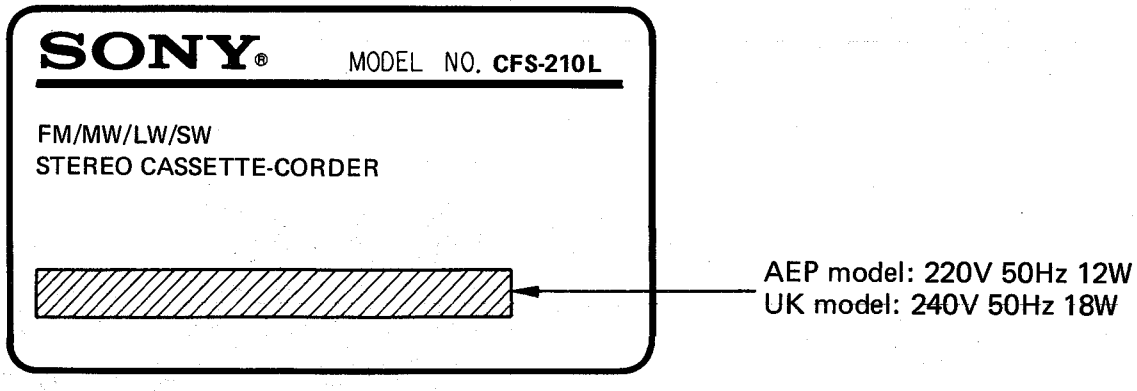
9 **BAND selector**

10 **FINE TUNING knob**

11 **TUNING knob**

12 **AC IN socket**

– MODEL IDENTIFICATION –
(Specification Label)



CFS-210L

SONY
SERVICE MANUAL

AEP Model
UK Model

SUPPLEMENT-2

File this supplement with the Service Manual.

Subject : Color addition

Special red, special white, special black, and gun black types are added in West Germany and Spanish models.

● Destinction between former types and new types.

Color type	Color of cassette window (*1 on Fig. 1)
RED WHITE BLACK	SILVER
SPECIAL RED SPECIAL WHITE SPECIAL BLACK GUN BLACK	BLACK

● Destinction between special black type and gun black type.

Color type	Color of front cabinet (*2 on Fig. 1)
SPECIAL BLACK	BLACK WITH SATIN
GUN BLACK	BLACK WITHOUT SATIN

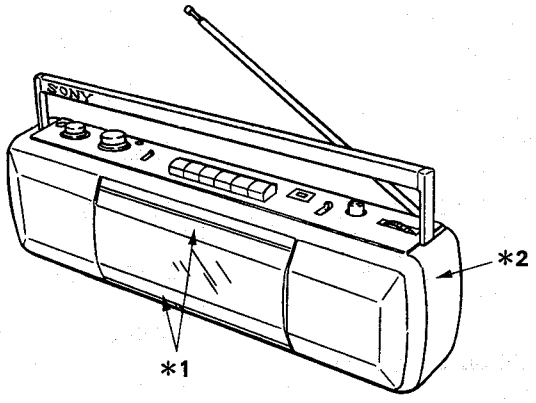


Fig. 1

● **Add the following parts in the Service Manual.**

No.	Part No.	Description
1	3-338-526-11	(SPECIAL RED, SPECIAL WHITE, SPECIAL BLACK, GUN BLACK) ···GRILLE (RIGHT), SP
3	X-3338-545-1	(SPECIAL WHITE) ···HOLDER ASSY, CASSETTE
	X-3338-546-1	(SPECIAL RED) ···HOLDER ASSY, CASSETTE
	X-3338-547-1	(SPECIAL BLACK) ···HOLDER ASSY, CASSETTE
	X-3338-548-1	(GUN BLACK) ···HOLDER ASSY, CASSETTE
4	3-338-527-11	(SPECIAL RED, SPECIAL WHITE, SPECIAL BLACK, GUN BLACK) ···GRILLE (LEFT), SP
5	X-3338-549-1	(SPECIAL WHITE) ···CABINET ASSY, FRONT
	X-3338-552-1	(SPECIAL RED) ···CABINET ASSY, FRONT
	X-3338-550-1	(SPECIAL BLACK) ···CABINET ASSY, FRONT
	X-3338-551-1	(GUN BLACK) ···CABINET ASSY, FRONT
6	3-338-522-01	(SPECIAL RED, SPECIAL WHITE) ···KNOB, VOL
	3-338-522-11	(SPECIAL BLACK, GUN BLACK) ···KNOB, VOL
7	3-338-501-01	(SPECIAL RED, SPECIAL WHITE) ···KNOB, FINE TUNE
	3-338-501-21	(SPECIAL BLACK, GUN BLACK) ···KNOB, FINE TUNE
10	3-338-519-01	(SPECIAL RED, SPECIAL WHITE) ···BUTTON (A), PAUSE
	3-338-519-11	(SPECIAL BLACK, GUN BLACK) ···BUTTON (A), PAUSE
11	3-338-516-01	(SPECIAL RED, SPECIAL WHITE) ···BUTTON (A), FF
	3-338-516-11	(SPECIAL BRACK, GUN BLACK) ···BUTTON (A), FF
12	3-338-517-01	(SPECIAL RED, SPECIAL WHITE) ···BUTTON (A), REW
	3-338-517-11	(SPECIAL BLACK, GUN BLACK) ···BUTTON (A), REW
13	3-338-518-01	(SPECIAL RED, SPECIAL WHITE) ···BUTTON (A), PLAY
	3-338-518-11	(SPECIAL BLACK, GUN BLACK) ···BUTTON (A), PLAY
14	3-338-515-01	(SPECIAL RED, SPECIAL WHITE) ···BUTTON (A), REC
	3-338-515-11	(SPECIAL BLACK, GUN BLACK) ···BUTTON (A), REC
15	3-338-514-01	(SPECIAL RED, SPECIAL WHITE) ···BUTTON (A), STOP
	3-338-514-11	(SPECIAL BLACK, GUN BLACK) ···BUTTON (A), STOP
18	3-338-521-01	(SPECIAL RED, SPECIAL WHITE) ···KNOB, TUNING
	3-338-521-21	(SPECIAL BLACK, GUN BLACK) ···KNOB, TUNING
19	3-338-524-01	(SPECIAL RED, SPECIAL WHITE) ···PLATE, SIDE, HANDLE
	3-338-524-11	(SPECIAL BLACK, GUN BLACK) ···PLATE, SIDE, HANDLE
20	3-338-525-21	(SPECIAL BLACK, GUN BLACK) ···HANDLE
	3-338-525-41	(SPECIAL WHITE) ···HANDLE
	3-338-525-51	(SPECIAL RED) ···HANDLE
21	3-338-532-01	(SPECIAL WHITE) ···LID, BATTERY CASE
	3-338-532-11	(SPECIAL RED) ···LID, BATTERY CASE
	3-338-532-21	(SPECIAL BLACK, GUN BLACK) ···LID, BATTERY CASE
57	3-338-520-01	(SPECIAL RED, SPECIAL WHITE) ···KNOB, FUNCTION
	3-338-520-11	(SPECIAL BLACK, GUN BLACK) ···KNOB, FUNCTION
62	3-338-553-52	(SPECIAL WHITE) ···CABINET (REAR)
	3-338-553-62	(SPECIAL RED) ···CABINET (REAR)
	3-338-553-72	(SPECIAL BLACK, GUN BLACK) ···CABINET (REAR)
	ACCESSORY & PACKING MATERIAL	
	3-338-588-01	(West Germany, Spanish) ···INDIVIDUAL CARTON
	3-765-875-61	(West Germany, Spanish) ···MANUAL, INSTRUCTION
	3-765-875-71	(West Germany, Spanish) ···MANUAL, INSTRUCTION

9-952-632-82

Sony Corporation
Audio Group

English
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SECTION 1
ADJUSTMENTS

1-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. The adjustments should be performed in the order given in this service manual.
   The adjustments should be performed for both L-CH and R-CH.

Torque Measurement

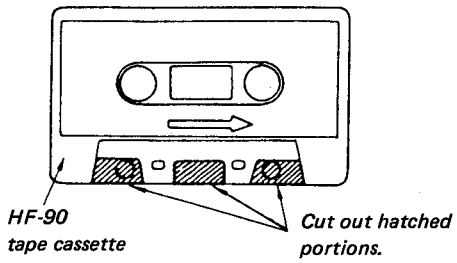
Torque	Torque meter	Meter reading
Forward	CQ-102C	25–50 g•cm (0.35–0.69oz•inch)
Fast Forward, Rewind	CQ-201B	65–110 g•cm (0.9–1.53oz•inch)
Back Tension	CQ-102C	2–6 g•cm (0.03–0.07oz•inch)

Tape Pulling Force Measurement

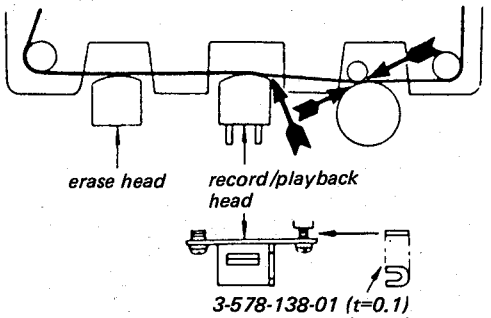
Meter	Meter reading
CQ-403	more than 170 g (more than 5.99 oz)

Head Height Adjustment

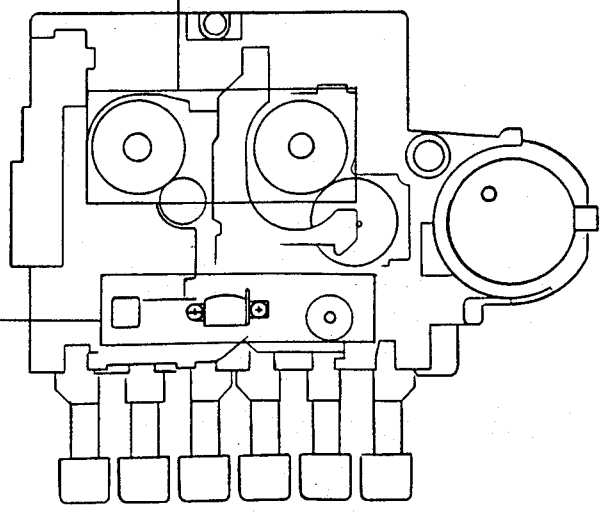
1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at the portions shown by arrow.



3-578-138-01 (t=0.1)
3-578-138-11 (t=0.2)
3-578-138-21 (t=0.3)
Shim, head height adjustment



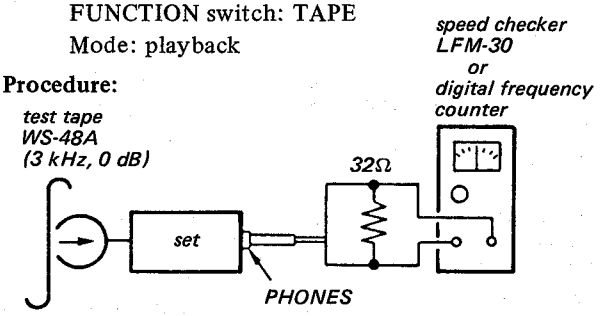
1-2. TAPE RECORDER SECTION ELECTRICAL ADJUSTMENTS

Tape Speed Adjustment

Setting:

FUNCTION switch: TAPE
Mode: playback

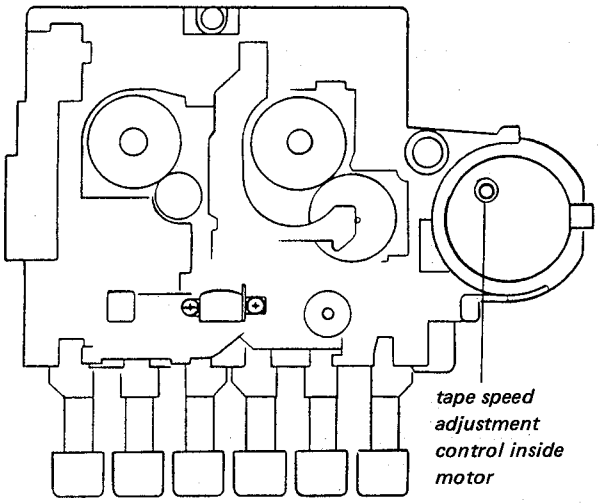
Procedure:



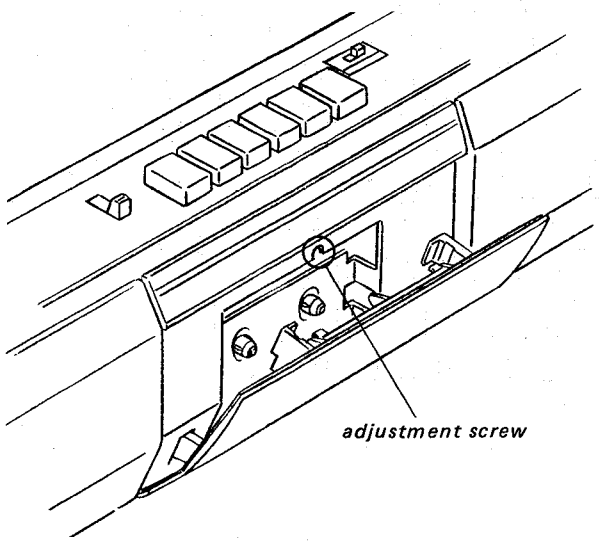
Specification:

Speed checker	Digital frequency counter
−3 to +3%	2,910 to 3,090Hz

Frequency difference between the beginning and the end of the tape should be within 1% (30 Hz).



Adjustment Location:



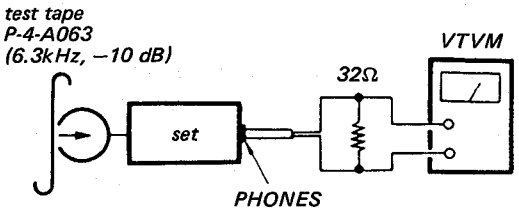
Record/Playback Head Azimuth Adjustment

Setting:

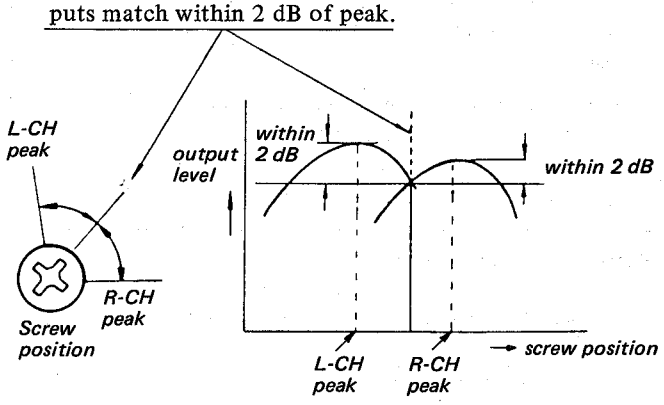
FUNCTION switch: TAPE

Procedure:

1. Mode: playback

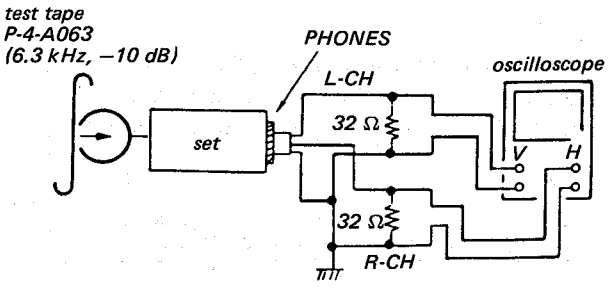


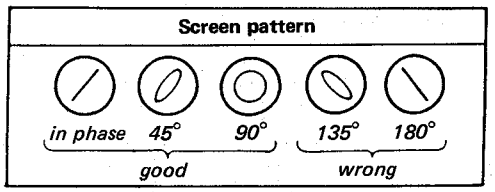
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 2 dB of peak.



Note: Finish the screw adjustment with a turn in the clockwise direction.
After the adjustment, lock the adjustment screw.

3. Phase Check
Mode: playback

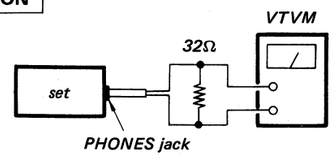


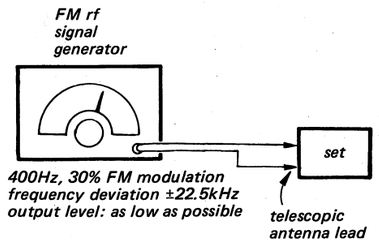


CFS-210L

1-3. RADIO SECTION ELECTRICAL ADJUSTMENTS

FM SECTION



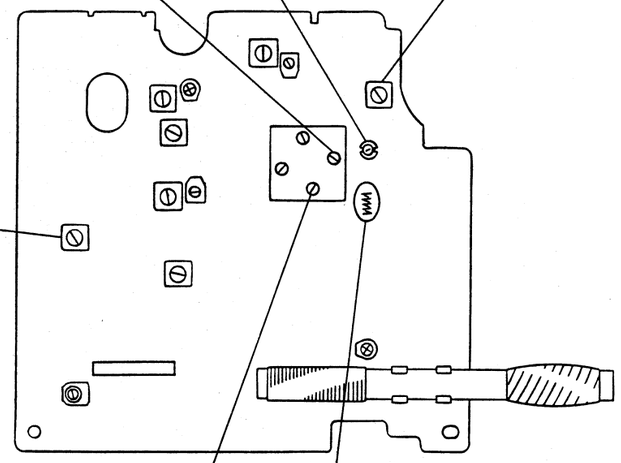


- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
107.8MHz	87.35MHz
CT2	L2

FM IF ADJUSTMENT (1)
Adjust for a maximum reading on VTVM
10.7 MHz
T1

FM IF ADJUSTMENT (2)	
Minimum distotion	
10.7MHz	T2



CT1	L1
107.8MHz	87.35MHz
Adjust for a maximum reading on VTVM.	
FM TRACKING ADJUSTMENT	

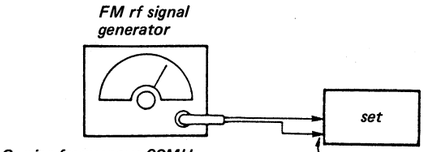
- FM tracking adjustment should be made after FM IF alignment.

VCO Adjustment

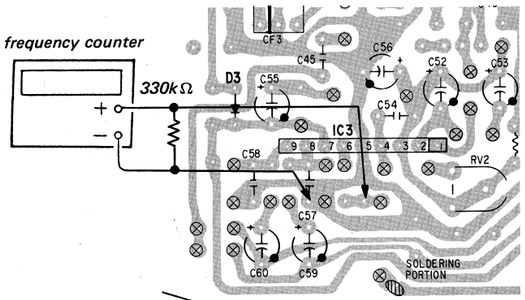
Setting:
FM MONO/ST switch: FM ST

A) Regular Method

Procedure:



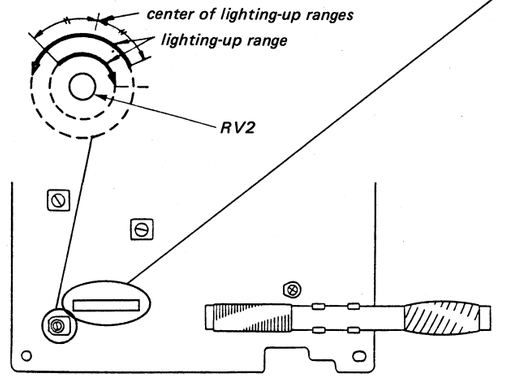
1. Connect frequency counter to it as shown below.
2. Tune the set to 98MHz.
3. Adjust RV1 for 38kHz ± 0.1kHz reading on the frequency counter.



B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the lighting-up range of the FM STEREO lamp.
3. Secure RV1 at the center of the lighting-up range of both turns as shown below.

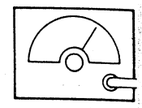


MW/LW/SW SEC

MW/LW

Setting:

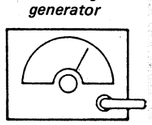
FUNCTION sw
BAND switch:

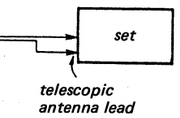


SW

Setting:

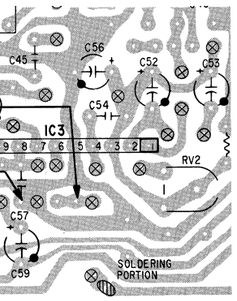
FUNCTION sw
BAND switch:





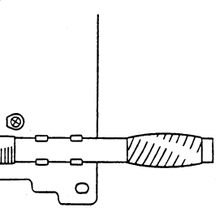
o it as shown below.

kHz reading on the



broadcasting signal.
ounterclockwise and
nge of the FM STE-

the lighting-up range
.
-up ranges
ge

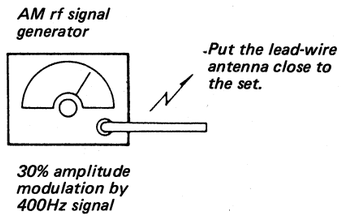


MW/LW/SW SECTION

MW/LW

Setting:

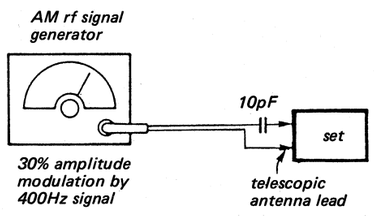
FUNCTION switch: RADIO
BAND switch: MW/LW

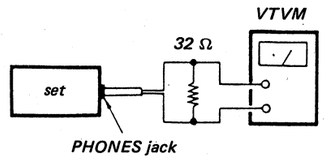


SW

Setting:

FUNCTION switch: RADIO
BAND switch: SW





- Repeat the procedure in each adjustment several times, and the frequency coverage and tacking adjustments should be finally done by the trimmer capacitors.
- Set the FINE TUNING knob in the center position for the SW adjustments.

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
145kHz	295kHz
L12	CT8

SW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
5.8MHz	18.4MHz
L10	CT7

SW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
18.4MHz	CT5
5.8MHz	L8

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L11	520kHz
CT4	1,680kHz

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
260kHz	160MHz
CT6	L9-2

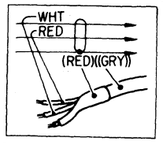
UK: 468kHz AEP: 455kHz	T3
Adjust for a maximum reading on VTVM.	
AM IF ALIGNMENT	

CT3	L9-1
1,400kHz	600kHz
Adjust for a maximum reading on VTVM.	
MW TRACKING ADJUSTMENT	

SECTION 2
DIAGRAMS

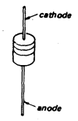
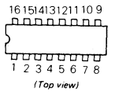
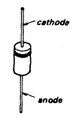
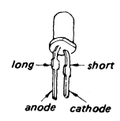
Note:

- Color code of sleeving over the end of the jacket.



- ⊣⊢ : indicates side identified with part number.

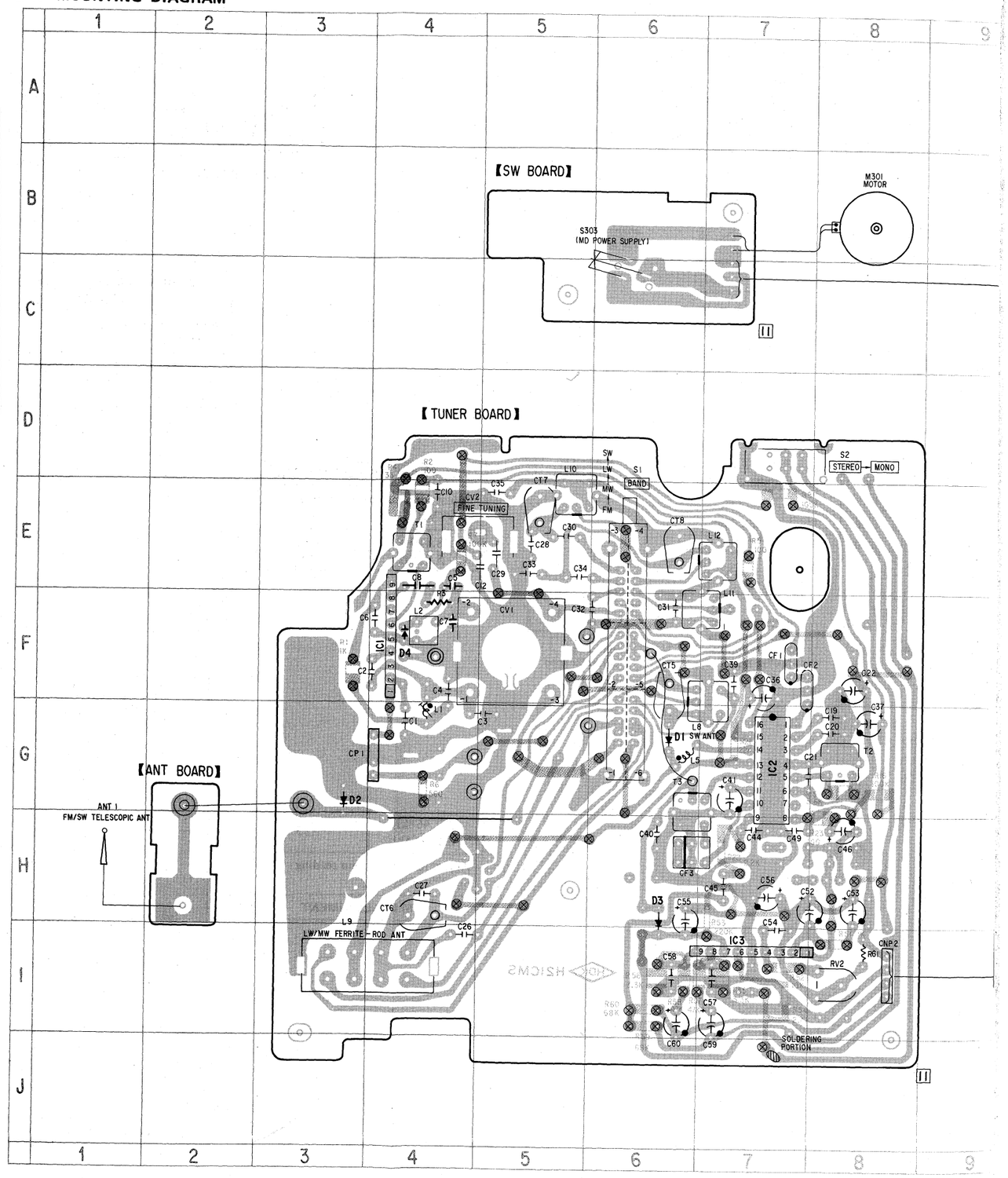
Semiconductors Lead Layout

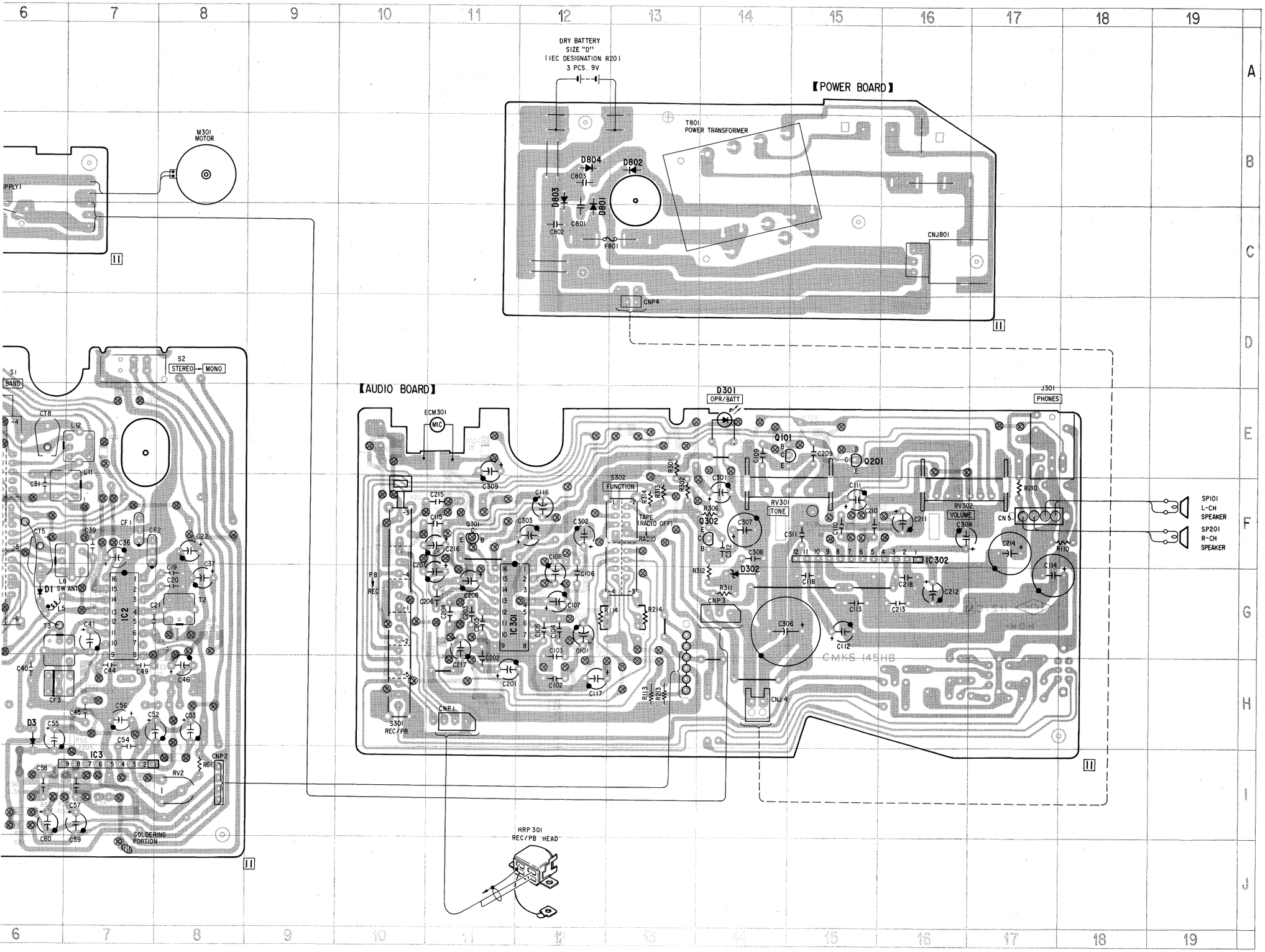
TA7282AP 	**2SC2001-L**
TA7343AP **TA7358AP** 	**ISS119** 
LA1260S **TA7668BP** 	**10E2** 
2SC634SP 	**TLR123** 

●SEMICONDUCTOR LOCATION

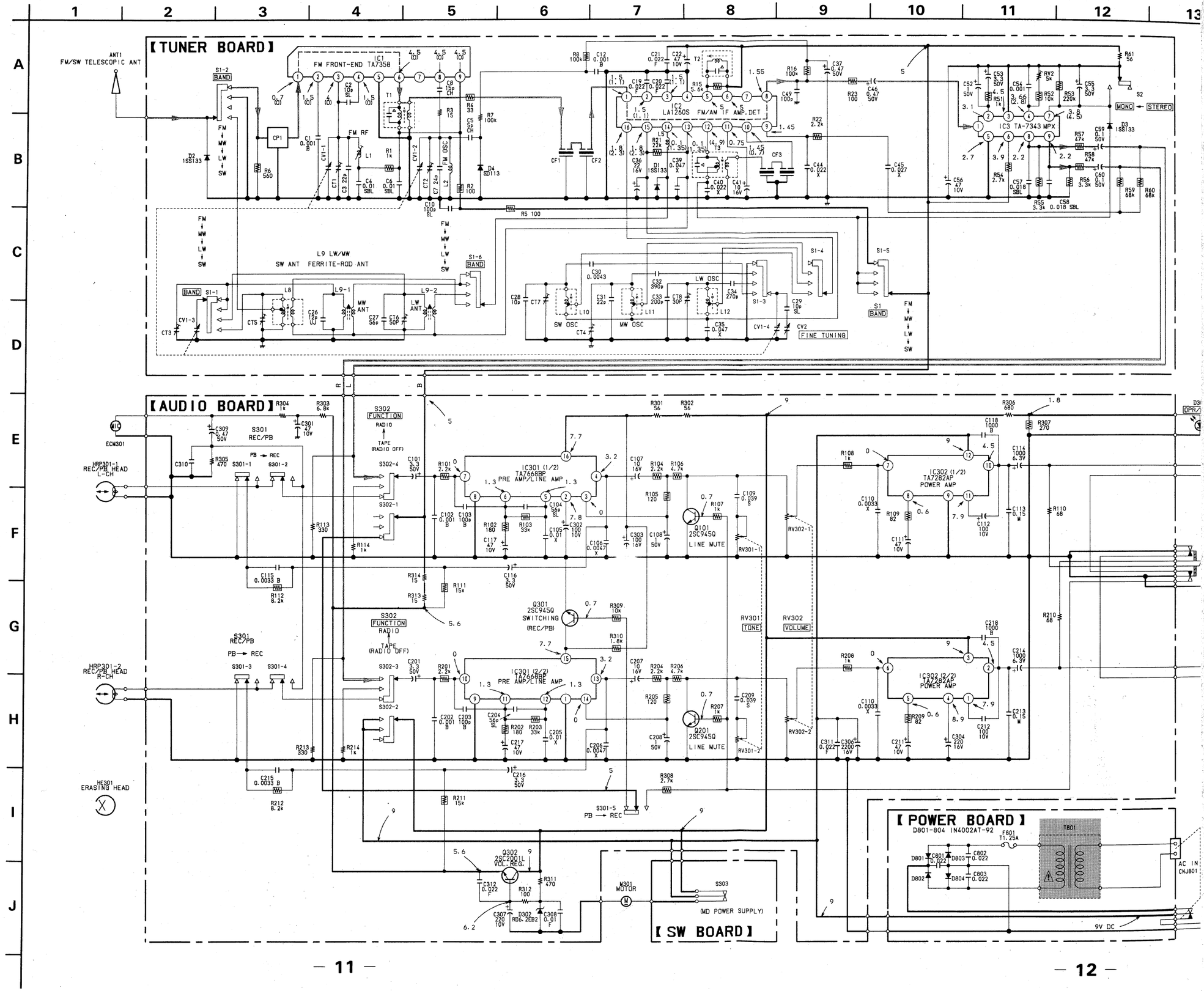
Ref. No.	Location
IC1	F-4
IC2	G-7
IC3	I-7
IC301	G-11
IC302	F-15
Q101	E-14
Q201	E-15
Q301	F-11
Q302	F-13
D1	G-6
D2	G-3
D3	H-6
D4	F-4
D301	E-14
D302	F-14
D801	B-12
D802	B-13
D803	B-12
D804	B-12

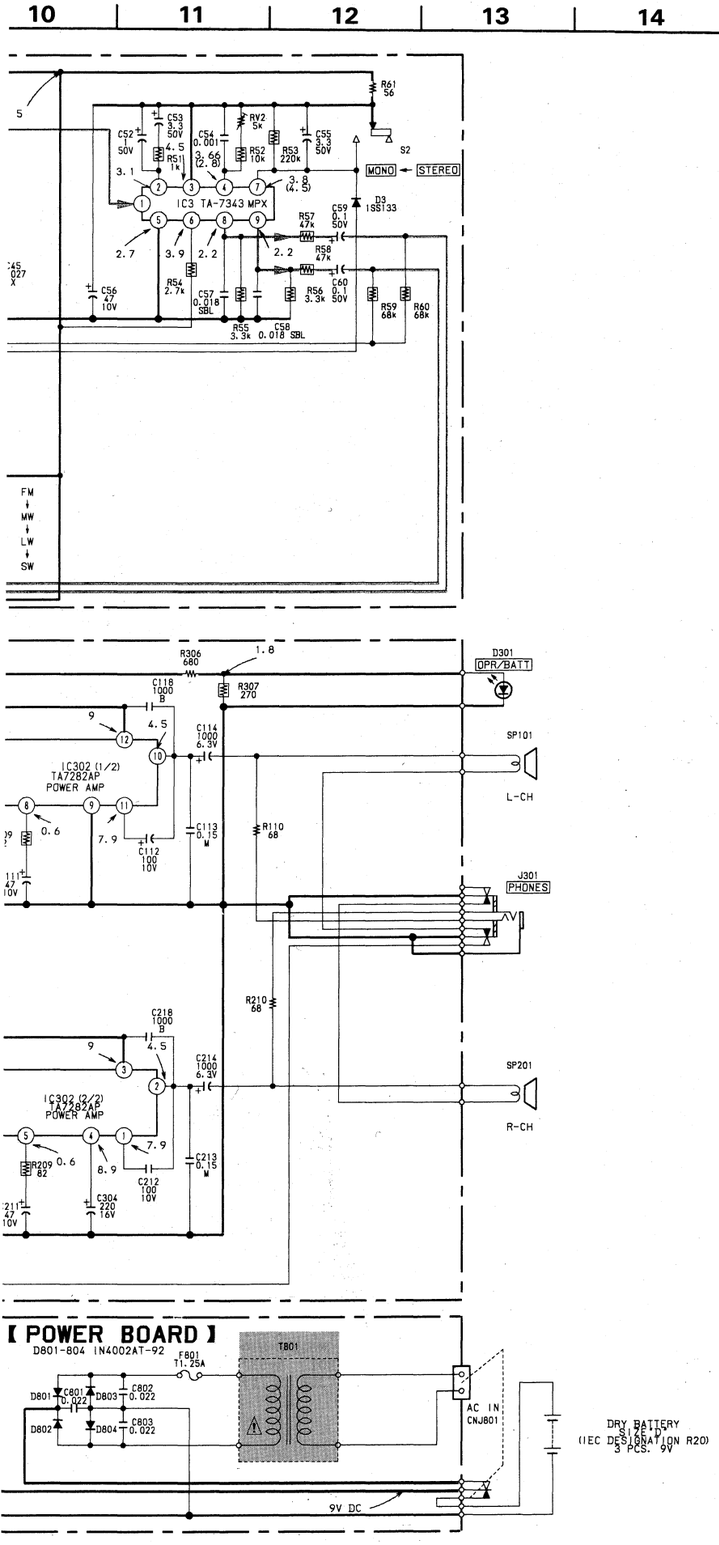
2-1. MOUNTING DIAGRAM




DRY BATTERY
SIZE "D"
(IEC DESIGNATION R20)
3 PCS. 9V
【POWER BOARD】
T801
POWER TRANSFORMER
D804
D802
D803
D801
C803
C801
C802
F801
CNJ801
CNP4
M301
MOTOR
【AUDIO BOARD】
D301
OPR/BATT
J301
PHONES
ECM301
MIC
Q101
Q201
S302
FUNCTION
TAPE
(RADIO OFF)
RADIO
Q301
Q302
RV301
TONE
RV302
VOLUME
IC302
IC301
IC2
IC3
D302
CNP3
CNJ4
CNP1
CNP2
S301
REC/PB
PB
REC
S1
BAND
S2
STEREO
MONO
D1
SW ANT
D3
RV2
SOLDERING
PORTION
SP101
L-CH
SPEAKER
SP201
R-CH
SPEAKER
CN 5
HRP 301
REC/PB HEAD
CMKS 145HB

2-2. SCHEMATIC DIAGRAM





Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.

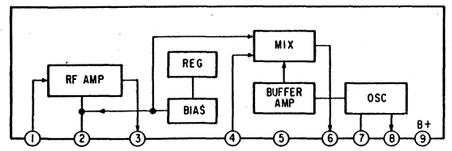
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- △ : internal component.
- ▭ : nonflammable resistor.
- Switch

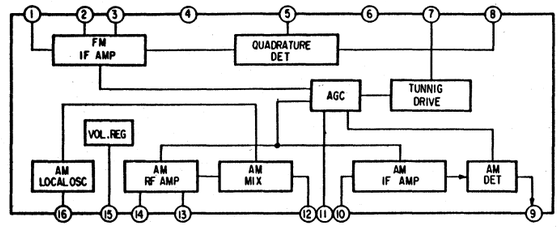
Ref. No.	Switch	Position
S1	BAND	FM
S2	STEREO/MONO	STEREO
S301	REC/PB	PB
S302	FUNCTION	TAPE
S303	MD POWER	OFF

- ▬ : B+ bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
  ( ): AM
  no mark: FM
- Voltage variations may be noted due to normal production tolerances.
- ◎ ▭▭▭▶ : signal path

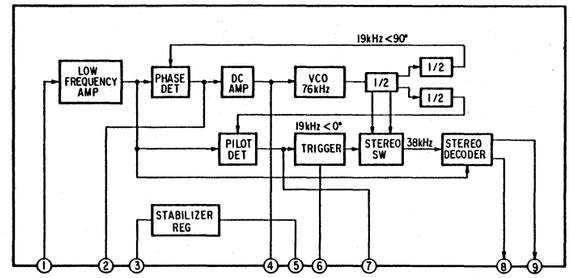
TA7358AP



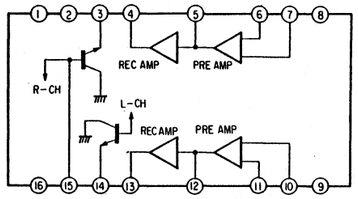
LA1260S



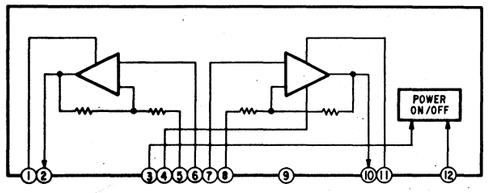
TA7343AP



TA7668AP



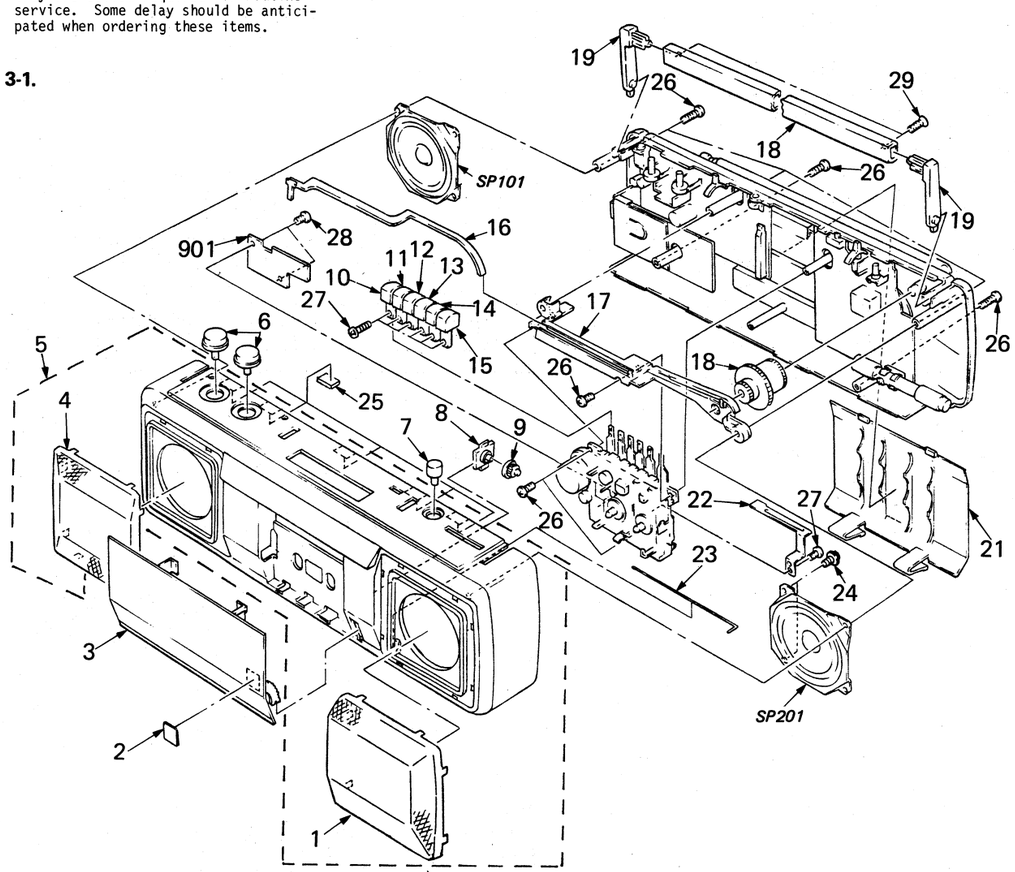
TA7282AP



SECTION 3
EXPLODED VIEWS AND PARTS LIST

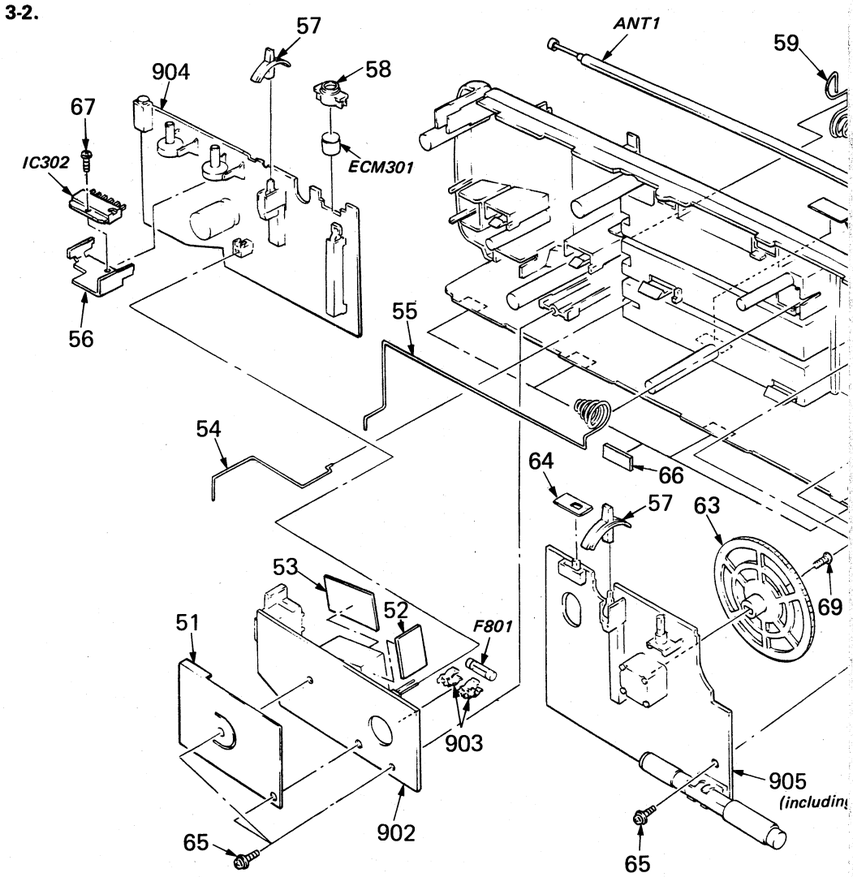
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  Cabinet's Color — Parts' Color

3-1.

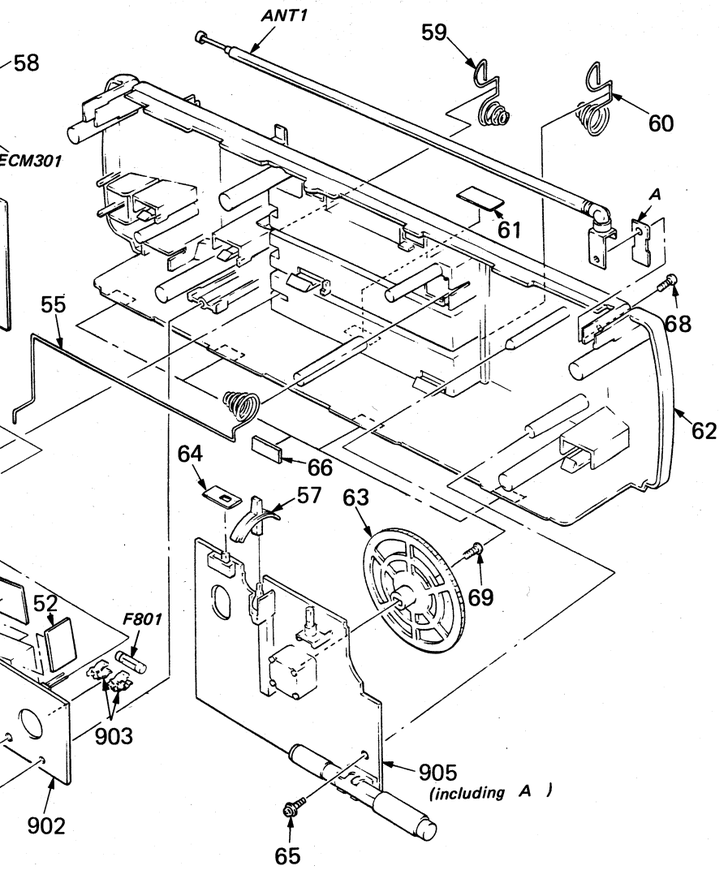


No.	Part No.	Description	Remarks
1	3-338-526-01	GRILLE (R), SP	
2	3-703-710-01	STICKER, SONY SYMBOL (12)	
3	X-3338-505-1	(BLACK)....HOLDER ASSY, CASSETTE	
	X-3338-506-1	(BLUE).....HOLDER ASSY, CASSETTE	
	X-3338-507-1	(WHITE)....HOLDER ASSY, CASSETTE	
	X-3338-508-1	(RED).....HOLDER ASSY, CASSETTE	
4	3-338-527-01	GRILLE (LEFT), SP	
5	X-3338-515-1	(WHITE)....CABINET ASSY, FRONT	1,4
	X-3338-516-1	(BLACK)....CABINET ASSY, FRONT	1,4
	X-3338-517-1	(RED).....CABINET ASSY, FRONT	1,4
	X-3338-518-1	(BLUE).....CABINET ASSY, FRONT	1,4
6	3-338-522-01	KNOB, VOL	
7	3-338-501-01	KNOB, FINE TUNE	
8	*3-338-507-01	BRACKET, EJECT	
9	3-319-592-01	GEAR, SE	
10	3-338-519-01	BUTTON (A), PAUSE	
11	3-338-516-01	BUTTON (A), FF	
12	3-338-517-01	BUTTON (A), REW	
13	3-338-518-01	BUTTON (A), PLAY	
14	3-338-515-01	BUTTON (A), REC	
15	3-338-514-01	BUTTON (A), STOP	
16	3-338-530-01	RACK, POINTER	
17	3-338-531-01	CHASSIS	
18	3-338-521-01	KNOB, TUNING	
19	3-338-524-01	PLATE, SIDE, HANDLE	
20	3-338-525-21	(BLACK)....HANDLE	
	3-338-525-31	(BLUE).....HANDLE	
	3-338-525-41	(WHITE)....HANDLE	
	3-338-525-51	(RED).....HANDLE	
21	3-338-532-01	(WHITE).....LID, BATTERY CASE	
	3-338-532-11	(RED,BLUE)...LID, BATTERY CASE	
	3-338-532-21	(BLACK).....LID, BATTERY CASE	
22	3-338-506-01	SPRING	
23	3-338-508-01	SPRING	
24	3-703-137-00	SCREW, TAPPING	
25	3-831-441-XX	CUSHION	
26	7-685-648-71	SCREW +BVTP 3X12 TYPE2 N-S	
27	7-685-790-04	SCREW +BVTT 2.6X4 (S)	
28	7-687-234-11	SCREW, TOTSU PTPWH 2.6X8, TYPE2	
29	7-685-247-29	SCREW +KTP 3X10 TYPE2 SLIT	
901	*1-621-300-11	PC BOARD, SW	
SP101	1-503-746-11	SPEAKER	
SP201	1-503-746-11	SPEAKER	

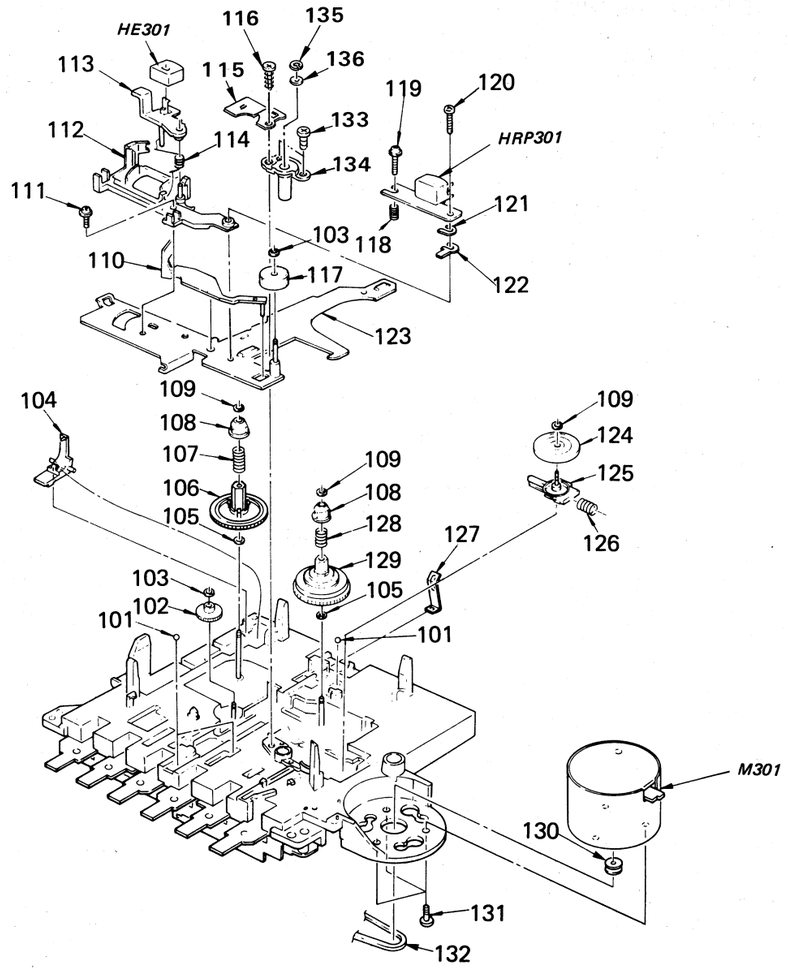
3-2.



No.	Part No.	Description	Remarks
51	*3-338-503-01	COVER, POWER	
52	3-338-547-01	CUSHION (A)	
53	3-338-548-01	CUSHION (B)	
54	3-338-509-01	TERMINAL, PLUS	
55	3-338-512-01	TERMINAL, MINUS	
56	*3-338-504-01	HEAT SINK	
57	3-338-520-01	KNOB, FUNCTION	
58	3-321-122-01	CUSHION, MICROPHONE	
59	3-338-510-01	SPRING (A)	
60	3-338-511-01	SPRING (B)	
61	3-527-213-00	LABEL, SERIAL NUMBER	
62	3-338-534-41	(WHITE,YELLOW)...CABINET (REAR)	
	3-338-534-51	(RED,BLUE).....CABINET (REAR)	
	3-338-534-61	(BLACK).....CABINET (REAR)	
63	3-338-505-01	DRUM, TUNING CAP	
64	3-338-513-01	SHEET	
65	3-703-137-00	SCREW, TAPPING	
66	3-831-441-XX	CUSHION	
67	7-685-645-71	SCREW +BVTP 3X6	
68	7-682-548-04	SCREW +P 3X8	
69	7-621-259-45	SCREW +P 2.6X6	
902	*1-621-301-11	PC BOARD, POWER	
903	1-533-183-11	HOLDER, FUSE	
904	*A-3270-363-A	PC BOARD ASSY,	
905	*A-3266-353-A	PC BOARD ASSY,	
ANT1	1-501-262-00	ANTENNA, TELESC	
ECM301	8-814-194-20	MICROPHONE, ELE	
F801	1-532-285-00	FUSE, TIME-LAG	
IC302	8-759-205-82	IC TA7282AP	



3-3.

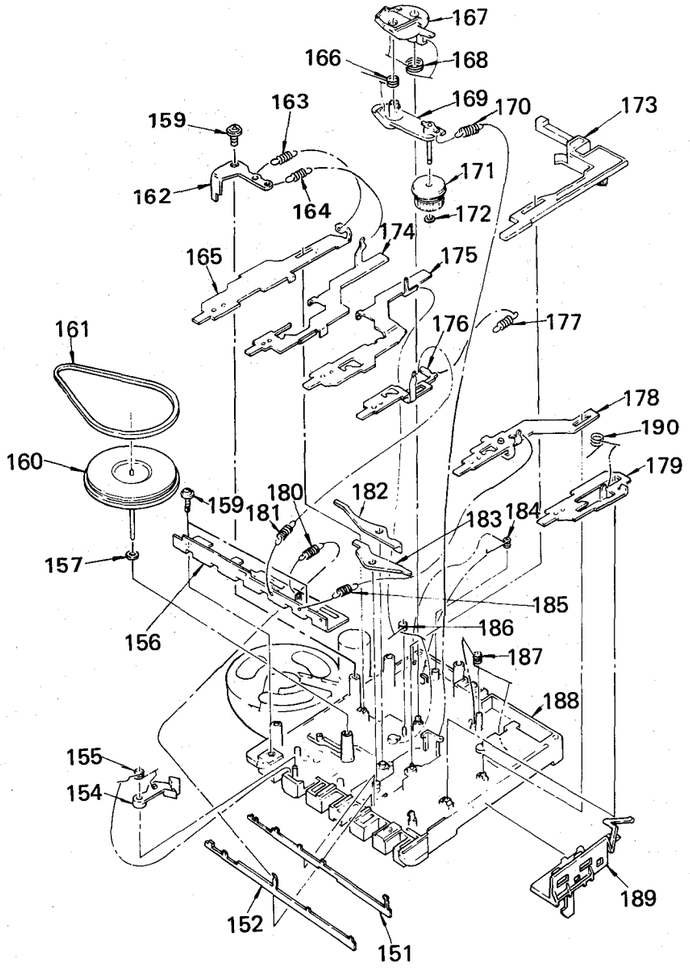


Remarks	No.	Part No.	Description	Remarks
	63	3-338-505-01	DRUM, TUNING CAPACITOR	
	64	3-338-513-01	SHEET	
	65	3-703-137-00	SCREW, TAPPING	
	66	3-831-441-XX	CUSHION	
	67	7-685-645-71	SCREW +BVTP 3X6 TYPE2 SLIT	
	68	7-682-548-04	SCREW +P 3X8	
	69	7-621-259-45	SCREW +P 2.6X6	
	902	*1-621-301-11	PC BOARD, POWER	
	903	1-533-183-11	HOLDER, FUSE	
	904	*A-3270-363-A	PC BOARD ASSY, AUDIO	
	905	*A-3266-353-A	PC BOARD ASSY, TUNER	
	ANT1	1-501-262-00	ANTENNA, TELESCOPIC	
INET (REAR)	ECM301	8-814-194-20	MICROPHONE, ELECTRET CONDENSER	
INET (REAR)	F801	1-532-285-00	FUSE, TIME-LAG	
INET (REAR)	IC302	8-759-205-82	IC TA7282AP	

No.	Part No.	Description	Remarks
101	7-671-112-11	BALL, STEEL	
102	3-558-620-11	GEAR, REWIND	
103	3-307-948-01	WASHER, NYLON	
104	3-313-357-00	CLAW, REC PREVENTION	
105	3-701-437-21	WASHER	
106	3-313-305-00	TABLE, REEL, SUPPLY	
107	3-313-344-00	SPRING, COMPRESSION	
108	3-313-333-00	CLAW, REEL	
109	3-558-708-01	WASHER, STOPPER	
110	3-313-316-00	PULLEY	
111	7-621-955-35	SCREW (2MMX5), + PWH	
112	3-334-717-01	BRACKET (M), HEAD	
113	3-324-221-01	ARM (DC), ERASE HD	
114	3-313-339-00	SPRING	
115	*3-332-309-01	SPRING (B)	
116	3-324-220-01	SCREW (B2.6), TAPPING	
117	3-703-597-41	PINCH ROLLER, STANDARD	
118	3-313-340-00	SPRING, COMPRESSION	
119	3-701-465-00	SCREW, LOCK	
120	7-621-772-40	SCREW +B 2X8	
121	3-578-138-01	SEAM	
	3-578-138-11	SEAM	
	3-578-138-21	SEAM	

No.	Part No.	Description	Remarks
122	3-331-108-01	LUG (T), SEAM	
	3-331-108-11	LUG (T), SEAM	
	3-331-108-21	LUG (T), SEAM	
	3-331-108-31	LUG (T), SEAM	
	3-331-108-41	LUG (T), SEAM	
123	X-3313-311-1	CHASSIS ASSY	
124	X-3313-307-0	PULLEY ASSY, FWD	
125	X-3313-301-0	BRACKET ASSY, T PULLEY	
126	3-573-464-00	SPRING, COMPRESSION	
127	3-313-902-00	SPRING	
128	3-324-213-01	SPRING, COMPRESSION	
129	A-3130-031-A	TABLE ASSY, REEL, TAKE-UP	
130	X-3313-308-1	PULLEY, MOTOR	
131	7-621-770-87	SCREW +P 2.6X5	
132	3-313-335-00	BELT, CAPSTAN	
133	3-318-203-71	SCREW (B1.7X5), TAPPING	
134	X-3319-945-1	BEARING ASSY, CAPSTAN	
135	3-307-948-41	WASHER, NYLON	
136	3-701-438-11	WASHER, 2.5	
HE301	1-543-396-11	HEAD, ERASE	
HRP301	1-543-340-21	HEAD, MAGNETIC (REC/PB)	
M301	1-541-231-00	MOTOR	

3-4.



No.	Part No.	Description	Remarks
151	*3-331-145-01	PLATE (C), LOCK	
152	*3-313-351-11	PLATE (A), LOCK	
154	3-313-322-02	LEVER (A), S.OFF	
155	3-313-323-00	SPRING	
156	*3-313-359-00	RETAINER, LEVER	
157	3-701-438-11	WASHER, 2.5	
159	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
160	X-3592-309-1	FLYWHEEL (E) ASSY	
161	3-313-335-00	BELT, CAPSTAN	
162	*3-332-310-01	HOOK, SPRING	
163	3-313-349-00	SPRING, TENSION	
164	3-313-348-00	SPRING, TENSION	
165	*3-313-381-01	LEVER (B), PAUSE BUTTON	
166	3-313-313-00	SPRING	
167	3-313-314-00	LEVER (SI), FR	
168	3-313-315-00	SPRING	
169	X-3313-304-0	ARM ASSY, REW	
170	3-313-365-00	SPRING, TENSION	
171	X-3313-312-1	IDLER ASSY, FR	

No.	Part No.	Description	Remarks
172	3-558-708-01	WASHER, STOPPER	
173	3-313-356-00	BRAKE	
174	*3-313-353-00	LEVER, FF BUTTON	
175	*3-313-354-00	LEVER, REW BUTTON	
176	*3-313-326-00	LEVER, FWD BUTTON	
177	3-313-342-00	SPRING, TENSION	
178	*3-313-350-00	LEVER, REC BUTTON	
179	*3-313-325-00	LEVER, STOP BUTTON	
180	3-313-343-00	SPRING, TENSION	
181	3-313-369-00	SPRING, TENSION	
182	*3-313-320-00	LEVER, RCP	
183	*3-313-321-00	LEVER, PREVENTION, RFR	
184	3-313-378-01	SPRING (A)	
185	3-322-529-01	SPRING, TENSION	
186	3-313-338-00	SPRING	
187	3-313-327-00	SPRING	
188	A-3102-092-A	CHASSIS ASSY, MECHANICAL	
189	3-313-380-01	CLAW (A), EJECT	
190	3-313-331-00	SPRING	

SECTION 4
ELECTRICAL PARTS LIST

NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : *nonflammable*

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	*1-621-300-11	PC BOARD, SW			
902	*1-621-301-11	PC BOARD, POWER			
903	1-533-183-11	HOLDER, FUSE			
904	*A-3270-363-A	PC BOARD ASSY, AUDIO			
905	*A-3266-353-A	PC BOARD ASSY, TUNER			
ANT1	1-501-375-11	ANTENNA, TELESCOPIC			
C1	1-102-074-00	CERAMIC	0.001MF	10%	50V
C2	1-102-947-00	CERAMIC	10PF	5%	50V
C3	1-102-514-00	CERAMIC	22PF	5%	50V
C4	1-161-013-00	CERAMIC	0.01MF	10%	25V
C5	1-102-864-00	CERAMIC	5PF	0.5PF	50V
C6	1-161-013-00	CERAMIC	0.01MF	10%	25V
C7	1-102-642-00	CERAMIC	24PF	5%	50V
C8	1-102-851-00	CERAMIC	15PF	5%	50V
C10	1-102-973-00	CERAMIC	100PF	5%	50V
C12	1-102-074-00	CERAMIC	0.001MF	10%	50V
C19	1-101-005-00	CERAMIC	0.022MF		50V
C20	1-101-005-00	CERAMIC	0.022MF		50V
C21	1-101-005-00	CERAMIC	0.022MF		50V
C22	1-123-306-00	ELECT	47MF	20%	10V
C26	1-102-949-00	CERAMIC	12PF	5%	50V
C27	1-101-884-00	CERAMIC	56PF	5%	50V
C28	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C29	1-102-947-00	CERAMIC	10PF	5%	50V
C30	1-103-740-00	POLYSTYRENE	0.0043MF	5%	50V
C31	1-102-720-00	CERAMIC	22PF	5%	50V
C32	1-104-067-00	POLYSTYRENE	390PF	5%	50V
C33	1-104-060-00	POLYSTYRENE	200PF	5%	50V
C34	1-103-711-00	POLYSTYRENE	270PF	5%	50V
C35	1-161-059-00	CERAMIC	0.047MF	10%	25V
C36	1-123-330-00	ELECT	22MF	20%	16V
C37	1-123-379-00	ELECT	0.47MF	20%	50V
C39	1-161-059-00	CERAMIC	0.047MF	10%	25V
C40	1-161-055-00	CERAMIC	0.022MF	10%	25V
C41	1-123-356-00	ELECT	10MF	20%	16V
C44	1-161-055-00	CERAMIC	0.022MF	10%	25V
C45	1-161-056-00	CERAMIC	0.027MF	10%	25V
C46	1-123-379-00	ELECT	0.47MF	20%	50V
C49	1-102-973-00	CERAMIC	100PF	5%	50V
C52	1-123-380-00	ELECT	1MF	20%	50V
C53	1-123-382-00	ELECT	3.3MF	20%	50V
C54	1-104-077-00	POLYSTYRENE	0.001MF	5%	50V
C55	1-123-382-00	ELECT	3.3MF	20%	50V
C56	1-123-306-00	ELECT	47MF	20%	10V
C57	1-161-054-00	CERAMIC	0.018MF	10%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C58	1-161-054-00	CERAMIC	0.018MF	10%	25V
C59	1-123-607-00	ELECT	0.1MF	20%	50V
C60	1-123-607-00	ELECT	0.1MF	20%	50V
C101	1-123-382-00	ELECT	3.3MF	20%	50V
C102	1-102-074-00	CERAMIC	0.001MF	10%	50V
C103	1-102-106-00	CERAMIC	100PF	10%	50V
C104	1-101-884-00	CERAMIC	56PF	5%	50V
C105	1-161-013-00	CERAMIC	0.01MF	10%	25V
C106	1-161-047-00	CERAMIC	0.0047MF	10%	25V
C107	1-123-356-00	ELECT	10MF	20%	16V
C108	1-123-380-00	ELECT	1MF.	20%	50V
C109	1-161-058-00	CERAMIC	0.039MF	10%	25V
C110	1-161-007-00	CERAMIC	0.0033MF	10%	50V
C111	1-123-306-00	ELECT	47MF	20%	10V
C112	1-123-307-00	ELECT	100MF	20%	10V
C113	1-130-497-00	MYLAR	0.15MF	5%	50V
C114	1-123-299-00	ELECT	1000MF	20%	6.3V
C115	1-102-122-00	CERAMIC	0.0027MF	10%	50V
C116	1-123-382-00	ELECT	3.3MF	20%	50V
C117	1-123-306-00	ELECT	47MF	20%	10V
C118	1-102-074-00	CERAMIC	0.001MF	10%	50V
C201	1-123-382-00	ELECT	3.3MF	20%	50V
C202	1-102-074-00	CERAMIC	0.001MF	10%	50V
C203	1-102-106-00	CERAMIC	100PF	10%	50V
C204	1-101-884-00	CERAMIC	56PF	5%	50V
C205	1-161-013-00	CERAMIC	0.01MF	10%	25V
C206	1-161-047-00	CERAMIC	0.0047MF	10%	25V
C207	1-123-356-00	ELECT	10MF	20%	16V
C208	1-123-380-00	ELECT	1MF	20%	50V
C209	1-161-058-00	CERAMIC	0.039MF	10%	25V
C210	1-161-007-00	CERAMIC	0.0033MF	10%	50V
C211	1-123-306-00	ELECT	47MF	20%	10V
C212	1-123-307-00	ELECT	100MF	20%	10V
C213	1-130-497-00	MYLAR	0.15MF	5%	50V
C214	1-123-299-00	ELECT	1000MF	20%	6.3V
C215	1-102-123-00	CERAMIC	0.0033MF	10%	50V
C216	1-123-382-00	ELECT	3.3MF	20%	50V
C217	1-123-306-00	ELECT	47MF	20%	10V
C218	1-102-074-00	CERAMIC	0.001MF	10%	50V
C301	1-123-306-00	ELECT	47MF	20%	10V
C302	1-123-307-00	ELECT	100MF	20%	10V
C303	1-123-333-00	ELECT	100MF	20%	16V
C304	1-123-321-00	ELECT	220MF	20%	16V
C306	1-123-325-00	ELECT	2200MF	20%	16V
C307	1-123-308-00	ELECT	220MF	20%	10V

CFS-210L

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C308	1-101-004-00	CERAMIC	0.01MF		50V
C309	1-123-379-00	ELECT	0.47MF	20%	50V
C311	1-101-005-00	CERAMIC	0.022MF		50V
C312	1-101-005-00	CERAMIC	0.022MF		50V
C801	1-101-005-00	CERAMIC	0.022MF		50V
C802	1-101-005-00	CERAMIC	0.022MF		50V
C803	1-101-005-00	CERAMIC	0.022MF		50V
CF1	1-567-802-71	FILTER, CERAMIC			
CF2	1-567-802-71	FILTER, CERAMIC			
CF3	1-567-670-11	FILTER, CERAMIC			
CN5	*1-564-778-11	SOCKET, CONNECTOR 4P			
CNJ4	*1-563-307-11	CONNECTOR (SOCKET) 2P			
CNJ801	1-526-838-11	INLET, AC 2P			
CNP1	*1-506-707-11	PLUG, CONNECTOR (2.5MM) 3P			
CNP2	*1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P			
CNP3	*1-506-707-11	PLUG, CONNECTOR (2.5MM) 3P			
CNP4	*1-563-530-00	PIN, CONNECTOR 2P			
CP1	1-231-720-00	FILTER, BANDPASS			
CT5	1-141-290-11	CAP, VAR FILM TRIMMER			
CT6	1-141-260-00	TRIMAR, CERAMIC			
CT7	1-141-290-11	CAP, VAR FILM TRIMMER			
CT8	1-141-245-00	TRIMMER, CERAMIC			
CV1	1-151-387-00	CAP, TUNING, POLYETHYLENE INCLUDING, CT1-4			
CV2	1-141-328-11	CAP, TRIMMER (FINE TUNING)			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-911-19	DIODE 1SS119			
D4	8-719-768-71	DIODE 1S2687S-1			
D301	8-719-812-31	TLR123(OPR/BATT)			
D302	8-719-100-38	DIODE RD6.2EB2			
D801	8-719-200-02	DIODE 10E2			
D802	8-719-200-02	DIODE 10E2			
D803	8-719-200-02	DIODE 10E2			
D804	8-719-200-02	DIODE 10E2			
ECM301	8-814-194-20	MICROPHONE, ELECTRET CONDENSER			
F801	1-532-285-00	FUSE, TIME-LAG			
HE301	1-543-396-11	HEAD, ERASE			
HRP301	1-543-340-21	HEAD, MAGNETIC (REC/PB)			
IC1	8-759-204-03	IC TA7358AP			
IC2	8-759-801-24	IC LA1260S			
IC3	8-759-203-87	IC TA7343AP			

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
IC301	8-759-205-91	IC TA7668BP			
IC302	8-759-205-82	IC TA7282AP			
J301	1-507-948-11	JACK			
L1	*1-422-126-00	COIL, AIR-CORE			
L2	1-459-694-11	COIL, VHF (WITH CORE)			
L5	*1-409-293-00	COIL, AIR CORE			
L8	1-402-262-21	COIL, SW ANT			
L9	1-402-247-11	ANTENNA, FERRITE-ROD (LW/MW)			
L10	1-406-152-11	COIL, OSCILLATION (SW)			
L11	1-406-059-00	COIL, OSC			
L12	1-406-151-11	COIL, OSCILLATION (LW)			
M301	1-541-231-00	MOTOR			
Q101	8-729-600-27	TRANSISTOR 2SC634SP			
Q201	8-729-600-27	TRANSISTOR 2SC634SP			
Q301	8-729-600-27	TRANSISTOR 2SC634SP			
Q302	8-729-100-12	TRANSISTOR 2SC2001-L			
R1	1-249-417-11	CARBON	1K	10%	1/32W
R2	1-249-405-11	CARBON	100	10%	1/32W
R3	1-247-787-00	CARBON	15	5%	1/6W
R4	1-249-399-11	CARBON	33	10%	1/32W
R5	1-249-405-11	CARBON	100	10%	1/32W
R6	1-249-414-11	CARBON	560	10%	1/32W
R7	1-249-441-11	CARBON	100K	10%	1/32W
R8	1-249-441-11	CARBON	100K	10%	1/32W
R15	1-247-849-00	CARBON	5.6K	10%	1/32W
R16	1-249-441-11	CARBON	100K	10%	1/32W
R21	1-247-863-00	CARBON	22K	5%	1/16W
R22	1-249-421-11	CARBON	2.2K	10%	1/32W
R23	1-249-405-11	CARBON	100	10%	1/32W
R51	1-249-417-11	CARBON	1K	10%	1/32W
R52	1-249-429-11	CARBON	10K	10%	1/32W
R53	1-247-887-00	CARBON	220K	10%	1/32W
R54	1-249-422-11	CARBON	2.7K	10%	1/32W
R55	1-249-423-11	CARBON	3.3K	10%	1/32W
R56	1-249-423-11	CARBON	3.3K	10%	1/32W
R57	1-249-437-11	CARBON	47K	10%	1/32W
R58	1-249-437-11	CARBON	47K	10%	1/32W
R59	1-249-439-11	CARBON	68K	10%	1/32W
R60	1-249-439-11	CARBON	68K	10%	1/32W
R61	1-247-801-00	CARBON	56	5%	1/6W
R101	1-249-421-11	CARBON	2.2K	10%	1/32W
R102	1-249-408-11	CARBON	180	10%	1/32W
R103	1-249-435-11	CARBON	33K	10%	1/32W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R104	1-249-421-11	CARBON	2.2K	10%	1/32W
R105	1-249-406-11	CARBON	120	10%	1/32W
R106	1-249-425-11	CARBON	4.7K	10%	1/32W
R107	1-249-417-11	CARBON	1K	10%	1/32W
R108	1-249-417-11	CARBON	1K	10%	1/32W
R109	1-247-805-00	CARBON	82	10%	1/32W
R110	1-247-803-00	CARBON	68	5%	1/6W
R111	1-247-859-11	CARBON	15K	10%	1/32W
R112	1-249-428-11	CARBON	8.2K	10%	1/32W
R113	1-249-411-11	CARBON	330	10%	1/32W
R114	1-247-831-00	CARBON	1K	5%	1/6W
R201	1-249-421-11	CARBON	2.2K	10%	1/32W
R202	1-249-408-11	CARBON	180	10%	1/32W
R203	1-249-435-11	CARBON	33K	10%	1/32W
R204	1-249-421-11	CARBON	2.2K	10%	1/32W
R205	1-249-406-11	CARBON	120	10%	1/32W
R206	1-249-425-11	CARBON	4.7K	10%	1/32W
R207	1-249-417-11	CARBON	1K	10%	1/32W
R208	1-249-417-11	CARBON	1K	10%	1/32W
R209	1-247-805-00	CARBON	82	10%	1/32W
R210	1-247-803-00	CARBON	68	5%	1/6W
R211	1-247-859-11	CARBON	15K	10%	1/32W
R212	1-249-434-11	CARBON	8.2K	10%	1/32W
R213	1-249-411-11	CARBON	330	10%	1/32W
R214	1-247-831-00	CARBON	1K	5%	1/6W
R301	1-247-801-00	CARBON	56	5%	1/6W
R302	1-247-801-00	CARBON	56	5%	1/6W
R303	1-249-427-11	CARBON	6.8K	10%	1/32W
R304	1-249-417-11	CARBON	1K	10%	1/32W
R305	1-249-413-11	CARBON	470	10%	1/32W
R306	1-249-415-11	CARBON	680	5%	1/6W
R307	1-249-410-11	CARBON	270	10%	1/32W
R308	1-249-422-11	CARBON	2.7K	10%	1/32W
R309	1-249-429-11	CARBON	10K	10%	1/32W
R310	1-249-420-11	CARBON	1.8K	10%	1/32W
R311	1-247-823-00	CARBON	470	5%	1/6W
R312	1-249-405-11	CARBON	100	5%	1/6W
R313	1-247-787-00	CARBON	15	5%	1/6W
R314	1-247-787-00	CARBON	15	5%	1/6W
RV2	1-228-993-00	RES, ADJ, CARBON 5K			
RV301	1-237-567-11	RES, VAR (TONE)			
RV302	1-230-454-11	RES, VAR, CARBON 20K/20K (VOLUME)			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S1	1-554-885-11	SWITCH, LEVER SLIDE (BAND)
S2	1-553-937-00	SWITCH, SLIDE (STEREO/MONO)
S301	1-570-931-11	SWITCH, LEVER SLIDE (REC/PB)
S302	1-570-616-21	SWITCH, LEVER SLIDE (FUNCTION)
S303	1-554-495-00	SWITCH, LEAF (MD POWER SPPLY)
SP101	1-503-746-11	SPEAKER
SP201	1-503-746-11	SPEAKER
T1	1-403-872-00	I.F.T CONVERTER FM (SMALL TYPE)
T2	1-404-249-00	COIL, FM DETECTOR
T3	1-404-355-00	TRANSFORMER, IF
T801	⚠1-448-760-11	(UK)....TRANSFORMER, POWER
T801	⚠1-448-761-11	(AEP)...TRANSFORMER, POWER

ACCESSORY & PACKING MATERIAL

Part No.	Description
⚠1-558-032-21	(UK)....CORD, POWER
⚠1-555-360-31	(AEP)...CORD, POWER
*3-338-536-01	CUSHION
*3-338-537-01	INDIVIDUAL CARTON
*3-338-541-01	SHEET, PROTECTION
3-701-626-01	BAG, POLYETHYLENE
3-703-895-01	LABEL, COLOR (BLACK)
3-703-908-01	(AEP)...LABEL, COLOR (WHITE)
*3-764-430-01	(AEP)...ISNTRUCTION, DBP CAUTION
3-765-875-11	(AEP)....MANUAL INSTRUCTION
3-765-875-41	(UK).....MANUAL INSTRUCTION

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

9-952-632-11

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Audio Group

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